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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/718,944

11/21/2003

Steven R. Sedlmayr

AUO1019

3586

7590

09/30/2004

Law Office of Roxana H. Yang  
P.O. Box 400  
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EXAMINER

FINEMAN, LEE A

ART UNIT

PAPER NUMBER

2872

DATE MAILED: 09/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/718,944

Applicant(s)

SEDLMAYR, STEVEN R.

Examiner

Lee Fineman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 18 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 176-232 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 176-232 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 November 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the merged beams having substantially the same selected predetermined orientation of a chosen component of electromagnetic wave field vector (claims 185-188, 199-202, 214-216, 218 and 227-230); the merged beams having a plurality of portions parallel and noncoincident (claims 180, 186, 194, 200, 209, 215, 222 and 228); the merged beams having a plurality of portions parallel, noncoincident and simultaneous (claims 183, 197, 212, 225); and the merged beams having a plurality of portions parallel, partially coincident and simultaneous (claims 184, 198, 213, 226) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted

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by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### *Claim Objections*

2. Claim 230 is objected to because of the following informalities: Claim 230 is currently dependent upon cancelled claim 43. However, the examiner believes that this dependency is a typographical error and that claim 230 is meant to be dependent upon claim 205. For the purposes of examination claim 230 will be treated as dependent upon claim 205. Appropriate correction is required.

### *Claim Rejections - 35 USC § 112*

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 183-184, 197-198, 212-213 and 225-226 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claims 183, 197, 212 and 225, state the limitation "in which each merged beam has its plurality of portions parallel, noncoincident and simultaneous" and claims 184, 198, 213 and 226 state the limitation "in which each merged beam has its plurality of portions parallel, partially coincident and simultaneous." First, the specification provides no special definition of

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simultaneous, so it is taken to mean “existing or occurring at the same time: exactly coincident” as stated in Merriam-Webster’s Collegiate Dictionary, Tenth Edition. Further, the specification provides no explanation or teaching to enable one of ordinary skill to understand how the light beams are in apparently contradictory spots at the same time, i.e., both noncoincident or partially coincident at the same time it is simultaneous (exactly coincident).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 176, 178-179, 181-184, 189, 190, 192-193, 195-198, 203-205, 207-208, 210-213, 217, 220-221, 223-226 and 231-232 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al., U.S. Patent No. 5,042,921 in view of Atarashi et al., U.S. Patent No. 5,172,254.

Regarding 176, 179, 189, 190, 193, 203-205, 208, 217, 221 and 231-232, Sato et al. disclose in fig. 24 a system and method of producing a collinear beam of electromagnetic energy/light having two constituent parts, comprising

[a] means (701 and 707) for providing a substantially collimated (by 707) primary beam of electromagnetic energy/light having a predetermined range of wavelengths and randomly changing orientations of a chosen component of electromagnetic wave field vectors, which

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includes producing an initial beam of ultraviolet (column 22, line 44, a xenon lamp inherently has ultraviolet wavelengths);

[b] means (702) for resolving the primary beam of electromagnetic energy/light into a substantially collimated primary first resolved beam (travels toward 712) of electromagnetic energy/light having substantially a first selected predetermined orientation of a chosen component of the electromagnetic wave field vectors (P) and a primary second resolved beam (travels toward 726) of electromagnetic energy having substantially a second selected predetermined orientation of a chosen component of the electromagnetic wave field vectors (S);

[c] means (712, 713, 721, 722) for separating each of the primary resolved beams of electromagnetic energy/light into two or more substantially collimated separate beams of electromagnetic energy/light, each of the substantially collimated separate beams of electromagnetic energy/light having a selected predetermined orientation of a chosen component of electromagnetic wave field vectors (P or S);

[d] means (709, 710, 711, 718, 719, 720) for altering the selected predetermined orientation of the chosen component of the electromagnetic wave field vectors of a plurality of portions of each of the substantially collimated separate beams of electromagnetic energy/light by passing the plurality of portions of each of the substantially collimated separate beams of electromagnetic energy/light through a respective one of a plurality of altering means whereby the selected predetermined orientation of the chosen component of the electromagnetic wave field vectors of the plurality of portions of each of the separate beams of electromagnetic energy/light is altered in response to a stimulus means by applying a signal means to the stimulus means in a predetermined manner as the plurality of portions of each of the substantially

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collimated separate beams of electromagnetic energy/light passes through the respective one of the plurality of means for altering the selected predetermined orientation of the chosen component of the electromagnetic wave field vectors (column 23, lines 17-19);

[e] [i] means (708) for combining the substantially collimated altered separate beams of electromagnetic energy/light of the primary first resolved beam of electromagnetic energy/light into a first substantially collimated single collinear beam of electromagnetic energy/light without substantially changing the altered selected predetermined orientation of the chosen component of the electromagnetic wave field vectors of the plurality of portions of each of the substantially collimated separate beams of electromagnetic energy/light, and [ii] means (717) for combining the substantially collimated altered separate beams of electromagnetic energy/light of the primary second resolved beam of electromagnetic energy/light into a second substantially collimated single collinear beam of electromagnetic energy/light without substantially changing the altered selected predetermined orientation of the chosen component of the electromagnetic wave field vectors of the plurality of portions of each of the substantially collimated separate beams of electromagnetic energy; and means (705) for passing the beams of electromagnetic energy/light to a projection means (20).

Sato et al. disclose the claimed invention except for [f] [i] means for resolving from the first substantially collimated single collinear beam of electromagnetic energy a substantially collimated first resolved beam of electromagnetic energy/light having substantially a first selected predetermined orientation of a chosen component of electromagnetic wave field vectors and a substantially collimated second resolved beam of electromagnetic energy/light having substantially a second selected predetermined orientation of a chosen component of

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electromagnetic wave field vectors, and [ii] means for resolving from the second substantially collimated single collinear beam of electromagnetic energy/light a substantially collimated first resolved beam of electromagnetic energy/light having substantially a first selected predetermined orientation of a chosen component of electromagnetic wave field vectors and a substantially collimated second resolved beam of electromagnetic energy/light having substantially a second selected predetermined orientation of a chosen component of electromagnetic wave field vectors; [g] means for merging one of the resolved beams of electromagnetic energy/light from the first substantially collimated single collinear beam of electromagnetic energy/light with one of the other resolved beams of electromagnetic energy/light from the second substantially collimated single collinear beam of electromagnetic energy/light into a substantially collimated third single collinear beam of electromagnetic energy/light, wherein the means for merging of the resolved beams includes means for merging of the resolved beams in which the plurality of portions of one of the merged beams has a different selected predetermined orientation of a chosen component of electromagnetic wave field vectors from that of the plurality of portions of the other merged beam; and means for passing the substantially collimated third single collinear beam of electromagnetic energy/light to a projection means.

Atarashi et al. teaches in fig. 5 a system and method of producing a collinear beam of electromagnetic energy/light having two constituent parts wherein the first single collinear beam (from 21RP) and the second collinear beam (from 18) are each resolved by means (17) into a first resolved beam of electromagnetic energy/light having substantially a first selected predetermined orientation of a chosen component of electromagnetic wave field vectors and a second resolved beam of electromagnetic energy/light having substantially a second selected



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predetermined orientation of a chosen component of electromagnetic wave field vectors (column 9, lines 43-56) and then merged by a means (17) into a third single collinear beam of electromagnetic energy/light (column 9, lines 57-59) wherein the means (17) for merging of the resolved beams includes means for merging of the resolved beams in which the plurality of portions of one of the merged beams has a different selected predetermined orientation (S) of a chosen component of electromagnetic wave field vectors from that of the plurality of portions of the other merged beam (P) before passing to a projection means (19).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add means to resolve and merge the beams as suggested by Atarashi et al. in the system of Sato et al. to further prevent unwanted stray light. Therefore, a substantially collimated third single collinear beam of electromagnetic energy/light will be formed and passed to the projection means. The method of utilizing the structure of the claim is inherent therein.

Regarding 178, 192, 207 and 220, Sato et al. further disclose wherein the means (702) for resolving the substantially collimated primary beam includes means (702) for resolving the substantially collimated primary beam into substantially collimated primary first and second resolved beams in which the first selected predetermined orientation of the chosen component of the electromagnetic wave field vectors of the first resolved beam has the selected predetermined orientation of the chosen component of the electromagnetic wave field vectors different from the second selected predetermined orientation of the chosen component of the electromagnetic wave field vectors of the second resolved beam (S versus P).

Regarding claims 181-184, 195-198, 210-213 and 223-226, Sato et al. in view of Atarashi et al. disclose the claimed invention except for wherein the means for merging the resolved

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beams includes means for merging the resolved beams in which each merged beam has its plurality of portions parallel and partially coincident or simultaneous to the plurality of portions of the other merged beam. Atarashi further teaches that when a single means (17) is used to merge the resolved beams (fig. 5) each merged beam has its plurality of portions parallel and partially coincident (in so far as any portion is coincident) or simultaneous to the plurality of portions of the other merged beam. It would have been obvious to one of ordinary skill in the art at the time the invention was made to replace means for merging and the two projection means with the single means for merging and projection means of as further suggested by Atarashi et al. to reduce the number of parts and therefore the cost of the system. In as much as claims 183-184, 197-198, 210-213 and 223-226 are able to be understood in light 35 U.S.C 112 rejection made above the rejection applies.

7. Claims 180, 194, 209 and 222 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al. in view of Atarashi et al., as applied to claims 176, 190, 205 and 217 above, and further in view of Craig, U.S. Patent No 4,740,836.

Sato et al. in view of Atarashi et al., as applied to claims 176, 190, 205 and 217 above, disclose the claimed invention except where the each of the merged beams has its plurality of portion noncoincident to the plurality of portions of the other merged beam. Craig teaches systems for viewing images in which two images are noncoincident to provide stereoscopic or three-dimensional views to the user (column 1, lines 16-40 and figs. 1 and 4). It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the images of Sato et al. in view of Atarashi et al. noncoincident to provide a three-dimensional projector

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which will work with many different stereoscopic imaging techniques like those suggested by Craig.

8. Claims 177, 185, 187-188, 191, 199, 201-202, 206, 214, 216, 218-219, 227, 229 and 230 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al. in view of Atarashi et al., as applied to claims 176, 190, 205 and 217 above, and further in view of Kurematsu et al., U.S. Patent No 5,237,435.

Sato et al. in view of Atarashi et al., as applied to claims 176, 190, 205 and 217 above disclose the claimed invention except for wherein the means for resolving the substantially collimated primary beam includes means for resolving the substantially collimated primary beam into substantially collimated primary first and second resolved beams in which the first selected predetermined orientation of the chosen component of the electromagnetic wave field vectors of the first resolved beam has the same selected predetermined orientation of the chosen component of the electromagnetic wave field vectors as that of the second selected predetermined orientation of the chosen component of the electromagnetic wave field vectors of the second resolved beam and wherein the means for merging of the resolved beams includes means for merging of the resolved beams in which the plurality of portions of one of the merged beams has the substantially same selected predetermined orientation of a chosen component of electromagnetic wave field vectors as that of the plurality of portions of the other merged beam. Kurematsu et al. teaches in fig. 1 wherein the primary first and second resolved beams (from elements 13 and 14) of electromagnetic energy/light have the same selected predetermined orientation of the chosen component of the electromagnetic wave field vectors (S). It would have

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been obvious to one of ordinary skill in the art at the time the invention was made to have the primary first and second resolved beams be the same predetermined orientation as suggested by Kurematsu et al. to provide the same light qualities to all the components for more consistent images. Therefore the merged beams would also have the substantially same selected predetermined orientation of a chosen component of electromagnetic wave field vectors as that of the plurality of portions of the other merged beam.

9. Claims 186, 200, 215 and 228 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al. in view of Atarashi et al. and Kurematsu et al., as applied to claims 185, 199, 214 and 227 above, and further in view of Craig, U.S. Patent No 4,740,836.

Sato et al. in view of Atarashi et al., as applied to claims 185, 199, 214 and 227 above, disclose the claimed invention except where the each of the merged beams has its plurality of portion noncoincident to the plurality of portions of the other merged beam. Craig teaches systems for viewing images in which two images are noncoincident to provide stereoscopic or three-dimensional views to the user (column 1, lines 16-40 and figs. 1 and 4). It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the images of Sato et al. in view of Atarashi et al. noncoincident to provide a three-dimensional projector which will work with many different stereoscopic imaging techniques like those suggested by Craig.

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***Conclusion***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lee Fineman whose telephone number is (571) 272-2313. The examiner can normally be reached on Monday - Friday 7:30 - 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on (571) 272-2312. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



LAF  
September 28, 2004

  
MARK A. ROBINSON  
PRIMARY EXAMINER